ears as in *cyclotis*, unusually broad, semicircularly rounded off above, and narrowly edged all round with yellow, this yellow edge interrupted here and there by the dark central colour of the conch breaking through to margin of conch. Molariform teeth, as in *cyclotis*, subcircular in outline, with m^1 and m_1 conspicuously smaller than, respectively, p^4 and p_4, but all teeth much heavier, particularly broader, than in the related species: p^3 (length and breadth) of type (between parentheses corresponding measurements of the type of *cyclotis*, for comparison) $2{\cdot}2 \times 2{\cdot}1$ ($2{\cdot}0 \times 1{\cdot}7$), p^4 $2{\cdot}0 \times 1{\cdot}8$ ($1{\cdot}8 \times 1{\cdot}6$), m^1 $1{\cdot}8 \times 1{\cdot}6$ ($1{\cdot}6 \times 1{\cdot}3$), p_3 $2{\cdot}5 \times 2{\cdot}0$ ($2{\cdot}3 \times 1{\cdot}7$), p_4 $2{\cdot}3 \times 2{\cdot}0$ ($2{\cdot}1 \times 1{\cdot}7$), m_1 $2{\cdot}0 \times 1{\cdot}7$ ($1{\cdot}9 \times 1{\cdot}5$), m_2 $1{\cdot}3 \times 1{\cdot}2$ ($1{\cdot}2 \times 1{\cdot}1$). Colour of fur peculiarly mottled above, as in *N. cyclotis*, but much darker: individual hairs of back seal-brown at extreme base (for about 5 mm.), then very pale buffy wood-brown (for 5–6 mm.), with short (2 mm.) dark brown tips; the mottled appearance of the colour of the head and back due to the dark brown tips of the hairs being too short to cover completely the paler middle portion of the hairs; a narrow and somewhat ill-defined dark brown spinal stripe along posterior half of back; breast and belly pale greyish drab in centre, flanks fawn.

Type, skin and skull of an adult (unsexed), Mount Goliath, Dutch New Guinea, 20 Jan. 1911, collected by A. S. Meek, B.M. no. 11. 11. 29. 1. Two other specimens, from the Upper Aroa River, British New Guinea, are in the collection of the British Museum.

Thirteen species of *Nyctimene* are now known; of these no less than five are New Guinean, viz. *N. papuanus*, *cyclotis*, *certans*, *geminus*, and *aëllo*,—no place has so rich a *Nyctimene* fauna as New Guinea.

XII.—*Notes, with Descriptions of new Species, on Aculeate Hymenoptera of the Australian Region.* By R. C. L. Perkins, M.A., D.Sc., F.Z.S.

Meroglossa, Smith, and Paleorhiza, Perkins.

The genera *Meroglossa* and *Palæorhiza* contain a large number of Australian bees of exceptional interest, owing to the fact that there is a quite unique sexual dimorphism in the mouth-parts. In the males the apex of the ligula, or tip of the tongue, is acute, while in the females it is of the

ordinary blunt form of the other Prosopidæ. It has been customary with some hymenopterists to speak of the Prosopidæ as being the most primitive of bees on account of the lingual characters, the blunt tongue being somewhat similar to that of wasps; but in many other respects they contain very highly evoluted forms.

It seems to me now to be very doubtful, owing to the condition of the tongue of the male of these two genera, whether the blunt tongue is a primitive character at all, and not rather a special development, and that the pointed organ of the male may be the more primitive. It has always been perplexing to find somewhat similar blunt tongues in another family (Colletidæ), which otherwise has so little in common with the Prosopidæ. It seems hardly possible that the males of *Meroglossa* and *Palæorhiza* should have specially developed a tongue quite different from the females for any special purpose; but we do know that both the Prosopidæ and the very different Colletidæ have in common the habit of smearing their cells with a peculiar secretion, which forms a receptacle for the larval food stored therein. This work is of course done entirely by the females, and, so far as is known, is quite peculiar to the two families of bees that have these blunt or bifid tongues.

It should not be at all surprising to find that some males have not acquired the same structure of the mouth-parts, since they do not perform the same function. Somewhat analogous cases may be seen in other Hymenoptera, *e. g.* in the Dryinidæ, wherein the males in some genera closely resemble their females in important characters, while in others the females, being modified for a special purpose, become extremely different, the males remaining in a very unspecialized condition. This is so much the case that systematists have even placed in different subfamilies females whose males are with difficulty separable generically! Although the bees may have originated from some blunt-tongued fossorial wasp, I do not think that the blunt-tongued bees can be any longer brought forward as evidence of this.

Prof. Cockerell has remarked that *Palæorhiza* is but "at the best a subgenus" of *Meroglossa*; but I think it is a quite distinct genus, and unless one proposes to sink both genera in *Prosopis*, to which few, if any, hymenopterists would agree, it must be maintained. There is at present some difficulty in distinguishing females of both these genera from certain species of *Prosopis*; but this is no doubt due partly to insufficient study and partly to the fact that *Prosopis* itself

is not a homogeneous group of species, but itself contains a number of genera. Until entomologists will take the trouble to examine the male terminal segments and genitalia of *Prosopis* it is unlikely that any very satisfactory classification will be forthcoming. It is, of course, unfortunate that no equally good characters have yet been discovered in the females, but, doubtless, when the males are satisfactorily classified it will be possible to find characters in the more difficult females. Having at various times during the past six years done some little work on these Australian bees, I recently took the opportunity of examining the large collection in the British Museum, where are most of the very numerous species described by Prof. Cockerell and the late F. Smith. The time at my disposal was quite insufficient for a satisfactory study of more than a fraction of the total number of species, but these I examined fairly thoroughly. Many species I did not examine at all.

Males of *Palæorhiza* are easily distinguished from *Meroglossa* by the simple scape of the antennæ, which in the latter is always greatly swollen in a manner quite peculiar to the genus; *Meroglossa* also has the face extraordinarily channelled. *Palæorhiza* has a very simple form of genital armature, that of *Meroglossa* is very specialized.

In the female of *Meroglossa* the second segment of the abdomen has a very wide basal area, with the sculpture very different from that of the apical portion of the segment; the posterior boundary of this basal area is always strongly curved, so that it is longest in the middle line, and it is always more or less exposed. In *Palæorhiza* there is at most only a narrow basal transverse area, and it is entirely concealed, unless the second segment be unnaturally distended. Some species of *Prosopis* have in the female a basal area somewhat like that of *Meroglossa*, but these are otherwise quite different in facies.

The following species belong to *Meroglossa*:—*M. penetrata*, *M. canaliculata*, *M. eucalypti*, *M. sculptissima*, *M. sulcifrons*, *M. impressifrons*, *M. desponsa*, *M. torrida*, and *M. rubricata*. Of some of these I have only seen females, and no doubt there are other * species amongst those I have not examined. *M. sulcifrons* and others have no doubt been wrongly placed owing to their resemblance in colour-pattern to certain Australian *Prosopis*, this pattern being entirely different from that of species heretofore described as *Meroglossa*.

* Thus *Prosopis diversipuncta*, Cockerell, and presumably *P. nigrifrons*, Sm., should belong to *Meroglossa*.

To *Palæorhiza* belong *P. perviridis, P. reginarum, P. luxuriosa, P. varicolor, P. turneriana, P. parallela, P. perkinsi, P. denticauda, P. melanura, P. flavomellea,* and *P. basilura.*

Meroglossa baudinensis (which I have not examined), according to Prof. Cockerell, "from its evident affinities must be a *Meroglossa*" (incl. *Palæorhiza*); but I think this improbable, as I have taken the female of an allied species —probably *Prosopis cyaneomicans,* and this is not at all related to either *Meroglossa* or *Palæorhiza.*

It should be noticed that "the comb on the first two joints of the maxillary palpi," said to be a noteworthy feature of *Meroglossa* (incl. *Palæorhiza*), is also found (quite similar) in some of the Australian *Prosopis* proper, as described by Prof. Cockerell, and having no near relationship with *Meroglossa* (incl. *Palæorhiza*).

It is to be regretted that Prof. Cockerell should have been obliged to describe his species at intervals and without any opportunity to review the whole together with Smith's species. I feel sure that, should he do so, he would agree with me as to the distribution of the species in the manner given above, and no doubt, having studied a larger number of described species than I have, he could at once determine the position of the misplaced *Prosopis.*

I have not been able to dissect the male of any of the black species of *Meroglossa,* which have the scutellum and postscutellum bright yellow and have been described as *Prosopis,* as the specimens with this coloration that I possess are all females.

Meroglossa penetrata, Sm.

It is remarkable that Smith should not have recognized this as a *Meroglossa,* as, apart from the sexual differences, the female has a great superficial resemblance to his *M. canaliculata.* I have observed this species in life at Bundaberg, where it was common. *M. canaliculata* I have received in numbers from Port Darwin. Prof. Cockerell has described a *M. lactifera* supposed to be allied to *M. penetrata.* I should think from the description that *M. lactifera* is certainly no *Meroglossa,* but either a *Prosopis* or *Palæorhiza,* and that the resemblance is superficial.

These comparatively big bees form a group (*Meroglossa* proper) very distinct from the *M. eucalypti* section (*Meroglossula*) of the genus. The sagittæ of the genital armature of the male extend to or beyond the apices of the stipites, whereas in *eucalypti* and its allies the sagittæ are very short

indeed and fall far short of the ends of the stipites. Moreover in the former the calcar of the hind tibiæ is conspicuously pectinate in the female, but not so in the *eucalypti* group.

In *M. canaliculata* the stipites are prolonged at the apex into a thin, recurved, elongate, downward-directed process, narrowed on the apical half; the membrane on the inner side of the stipes is ciliate with long bristles; outwardly beneath the stipes, before the apex, another lobe is seen beautifully and densely ciliated with long setæ. The apical processes are no doubt homologues of the membranous laciniæ of the *eucalypti* group, and are connected with the inner membrane.

In *M. penetrata* the apical processes are very slender and almost filiform and wider on the apical than the basal portion; externally just before the point of origin of these processes several long bristles are placed on a strongly chitinized line, while internally the membrane is regularly ciliated with long bristles, as in *canaliculata*. The small lobe seen beneath the stipes at about the middle of its length forms an acute tooth bearing about four long setæ, anterior to which is another row of long setæ directed downwards beneath the stipes.

Meroglossa soror, sp. n.

Female black, shining, clothed with whitish pubescence; the head in front and the face bare or nearly so; the clypeus, cheeks, sides of face adjoining the clypeus, the plate above it, and the scape of the antennæ red. A minute and inconspicuous spot on the mesopleuræ, one on the tegulæ, and one on the axillæ yellow. Mesonotum shining, finely punctured, not very closely on the disc; postscutellum shining, the punctures finer than the larger-sized ones of the scutellum. Basal abdominal segment smooth, shining, finely and not densely punctured except towards the sides, where is a lateral apical line of pubescence, the other segments generally pubescent. Almost similar to specimens of *M. percrassa* taken by myself at Bundaberg except for the different colour of the head and the different markings. It appears, however, to have a more shining and less strongly punctured mesonotum and other slight distinguishing characters, and is a little smaller.

Hab. Queensland, Herberton district (*Dodd*).

Meroglossa decipiens, sp. n.

Face of male formed as in *M. sculptissima*, pale markings of thorax and tegulæ as in *eucalypti*. Clypeus black on posterior half and the malar space black, the face otherwise like that of *eucalypti* in colour. Thorax black, abdomen reddish brown, subinfuscate in parts. Stipites of the male genital armature continued into an elongate submembranous lacinia fringed with very long hairs on the apical part outwardly, and with shorter ones along its exterior margin, where it underlies the stipites for half or more than half the length of the latter; inwardly before the apex of the stipites it gives off on each side a chitinous, somewhat pointed, elongate process, furnished before the apex exteriorly with a single long bristle, the inner margin to the apex fringed with short hairs.

Female with thoracic markings of *eucalypti*, the head above black, the face red, the abdomen a dull red colour.

Hab. Port Darwin and Herberton district, Queensland (*Dodd*).

Meroglossa deceptor, sp. n.

Face formed as in *eucalypti*, the clypeus becoming dark (brown or pitchy) on a line with the lateral angles of its prominence; malar space dark or with a very fine apical line, otherwise coloured much as like *eucalypti*. Pronotum black or more or less obscurely reddish; mesonotum red, more or less sordidly infuscate in some specimens; tubercles not spotted, dark; a spot on the tegulæ and one on the axillæ yellow; abdomen black, more or less reddish-tinted in parts, basal segment all black or largely red in the middle.

Genital armature with the submembranous lacinia much less developed than in the preceding; near the apex furnished with only two or three outer and three inner long setæ instead of the regular fringe of many apical setæ; the acute chitinous inner processes, which cross each other above the sagittæ, bare, without hairs or setæ. ♂.

It is uncertain whether these are distinct species or merely local races of *M. eucalypti* and *sculptissima*, with which they agree in size, sculpture, &c. It is observable that the species identical with *sculptissima* in superficial structure has almost the colour of *eucalypti*. I should have hesitated to give names to these forms but for the interest of the male genitalia, and in the hope that *eucalypti* and *sculptissima* may now be examined and described.

Hab. Cairns, collected by myself; Herberton (*Dodd*).

Palæorhiza, Perkins.

In the males, apart from the clothing of the terminal ventral abdominal segments and the carinations of the third segment, a rather useful character is found in the shape of the apical margin of the second segment beneath. This is distinctly angulated in the middle in *P. perviridis, reginarum, perkinsi*, &c., rounded or nearly straight in *varicolor, parallela, turneriana*, &c.

The seventh ventral segment furnishes useful characters: this usually has the form of a pair of lateral processes or wings on each side, one being dorsal to the other, the ventral ones more chitinized and ciliated along the lateral margin.

The genital armature is very similar in all the species examined, the stipites simple, without lacinia or membrane, with long hairs at the apices. In *P. parallela*, however, the armature is very short, about as wide as long to the apex of the stipites. In all the others it is elongate. In *P. eboracina* and *P. parallela* the very delicate inner (dorsal) membranous wings are extremely minute and delicate, not so long as the small ventral (more chitinized) triangular ones. In *P. varicolor* they are more developed and appear more chitinized and as long or longer than the upper, being also more pointed, but are without the cilia in the latter. In *perviridis* they are very long and twisted, extending far to the sides of the dorsal ciliated ones. In *basilura* the finely ciliated wings are butterfly-shaped, with black line at the base of the ciliæ, and I cannot detect any underlying membranous pair.

I regret that I have no specimen of *P. melanura* or *P. denticauda* (which form a distinct section of the genus, with a regular longitudinal rugosity of the anterior area of the propodeum) for dissection.

The seventh dorsal segment is emarginate apically in all the species examined. Rarely the genital armature is accidentally a little protruded. This is the case in the type of *P. denticauda*, and the structures described do not belong to naturally external parts. Similarly, in *M. luxuriosa* the description "apex of abdomen with a pair of minute contiguous spines" refers to the tips of the sagittæ of the genital armature.

As to the females, *P. perviridis* (the male of which has the angulated margin of the second ventral segment) has the hind calcar strongly toothed, but the species which I have identified as *P. varicolor, turneriana*, and *eboracina* (with simple second ventral segment in the male) are without these teeth. Should the angulated margin of

the male prove to be concomitant with the dentate calcar of the female, these will prove most useful characters. I was unable to examine the females of the British Museum species, from lack of time.

I have taken stylopized specimens of *P. eboracina*, and have *P. turneriana* thus affected.

Palæorhiza muiri, sp. n.

Very closely allied (♂) to *P. perviridis cassiæ*, Cock., but very different in superficial appearance, of a much duller or darker green, changing to purple in different aspects. The wings are rather darker. The clypeal marking consists of a large triangular cream-coloured spot, not prolonged backwards behind the middle, two minute dots above the antennæ being sometimes also present; lateral pale markings narrower and only prolonged a little above the antennæ; no prothoracic spots. Puncturation of thorax and abdomen decidedly closer and slightly finer. Agrees with *perviridis* in the angulation of the margin of the second ventral segment, the lateral carinæ of the third and fourth ventral segments, the general vestiture of the segments beneath (but the hairs are black), and for the most part in the genitalia and hidden seventh and eighth ventral segments. As in so many of the Australian Prosopidæ, the position of the recurrent nervures varies in individuals.

Length, ♂, about 9 mm.

Hab. Amboina (*Muir*).

Palæorhiza varicolor var. *eboracina*, Cockerell.

I found this form, described on a single specimen, very commonly on various flowers during July at Cairns and also at Kuranda. As I have not received it from Dodd, nor was it collected in the Cairns district by Turner, I suppose it is in season during the cold months of the year, when collecting is considered poor in the district. Both sexes are extremely constant in the facial markings, and superficially quite unlike any *varicolor* that I possess. I have, further, seen no *P. varicolor* resembling the original type, and those that I myself took in the Cairns district are very constant, none resembling the original type, and still less are they like *eboracina*.

Prosopis, Fabr.

Australia is extremely rich in described species of *Prosopis*, and doubtless but a fraction of the existing species have been

collected. Many of the species so described were not true *Prosopis*, and after the removal of those that belong to *Meroglossa* and *Palæorhiza*, the residue contains a complex of species belonging to a number of genera and subgenera.

I have here separated off two groups of species as distinct genera, but do not care to proceed further until I can obtain a larger number of species for dissection. There is no doubt that the terminal ventral segments and genital armature of the male are of great importance in the classification of these insects. In some cases the structure of the propodeum or median segment furnishes very valuable characters; but I do not think that it can be safely used for the formation of generic characters, unless these are corroborated by those of the male characters. Thus I have not thought it advisable to give any name to an important group of species with a remarkable flattened bifurcate process of the eighth ventral segment, since it includes species with very different propodeal structure, nor am I satisfied that the N.-American species with this structure are congeneric with Australian. The remarkable group of over fifty species of the genus *Nesoprosopis*, in the Hawaiian group of islands, show considerable variety of structure in the propodeum; but the terminal segments, while differing greatly in detail, are extremely uniform in their general features. While the extreme forms of *Nesoprosopis* might, by themselves, hardly be recognized as belonging to the same genus, the intermediate forms, still existing, show that all belong to a single series, and the male characters amply confirm this. Many neurational characters, considered of importance by some hymenopterists, are of very minor importance in Prosopidæ, owing to their instability even in individuals of the same species.

Gnathoprosopis, gen. nov.

I propose this name for a group of Australian *Prosopis*, quite remarkable for the extremely short, wide, flattened mandibles, broadly truncated at the apex in both sexes, and with quite a different appearance from the comparatively narrow, strongly carinated organs of ordinary species. Most of the species known to me in the male have either tubercles or processes on the third ventral segment, a peculiar erect abdominal pubescence, and a more or less dilated scape to the antennæ.

Anterior area of propodeum seen from in front bounded by a raised line at the truncation, the area being rugose; posteriorly it is marked off by an impression and the surface

is smooth, or more finely rugose, quite different from the anterior portion. Lower margin of the stigma to the radius nearly straight, so that the stigma is not very large and receives the radius beyond the middle. First recurrent received before the first transverse cubitus or interstitial with it.

Type of genus, *Prosopis xanthopoda*, Cockerell.

Stipites of the male genital armature simple, no lacinia or membrane, pilose apically, the sagittæ reaching to the apex of the stipites, or a little longer. Eighth ventral segment produced in the middle into a more or less elongate process; this segment, therefore, entirely different from the group of Australian *Prosopis* (which also have the propodeal area rugose) with the eighth segment produced into long pilose bifurcations.

This is a very easily recognized genus, on account of the general similarity of the sexes in their mandibular structure, quite different from that of *Prosopis*, which has in the male a sharp apical tooth at least or is apically acutely bidentate. In *Prosopis*, also, the longitudinal carinæ of the mandibles enclose a narrow elongate triangular space, the apex of the triangle at the apex of the mandibles, where the carinæ meet or are approximate. In *Gnathoprosopis*, in the female at least, the mandibles have a peculiar vestiture, and in both sexes they leave only a very small basal portion of the labrum visible. The several species of which I have seen males have the face remarkably polished, almost oily in appearance. The dilatation of the scape appears to be developed *pari passu* with that of the processes of the ventral surface of the abdomen.

No doubt this genus is numerous in Australia, as I myself have taken several species and have specimens from Adelaide to Cairns.

Gnathoprosopis theodorei, sp. n.

♂. Black, abdomen except the extreme base ferruginous. Mandibles, the whole face below the antennæ, the scape of the antennæ except above (where it is dark brown), a wide production upwards nearly to the top of the eyes from the facial colouring, the hind margin of the pronotum (narrowly interrupted in the middle), the tubercles, and a connection between these and the pronotal border yellow or creamy yellow; flagellum of antennæ ferruginous, a little paler beneath. Femora for the most part black or dark, but the middle ones are pale in front and down the middle posteriorly; tibiæ yellow, the middle and hind pair with dark

markings towards the apex; tarsi yellow, the front and middle ones more testaceous, except their basal joints.

Face below the antennæ polished, very obscurely sparsely punctured. Head above dull, very densely finely punctured. Apical margin of supraclypeal plate twice (or more) as wide as the length of its side to the antennal fossa. Scape strongly dilated, subovate, but not so wide as long. Mesonotum very dull and densely punctured, densely clothed with extremely short dark erect hairs and very sparse longer ones, which are more developed on the scutellum. Anterior area of propodeum shining, coarsely reticulately rugose. Wings clear hyaline, stigma and nervures fuscous.

Abdomen dark brown or fuscous on the basal portion and very deeply channelled in the middle above the petiole, unusually robust, shortly ovate, all the segments finely and closely punctured and densely and evenly clothed with longish erect pale pubescence, becoming fuscous on the apical segments. Third ventral segment produced into two great lateral dependent flattened processes, with the apices concave or emarginate, so as to form a large and a small apical angle, the segment deeply depressed behind the base between these processes; fourth segment with an oblique transverse carina on each side; sixth with a deep transverse fovea or impression on each side at the base.

♂. Length 7 mm.

By far the most remarkable of the *Prosopis xanthopoda* and *bituberculata* group, as at present known, and perhaps hardly congeneric with the others. Genitalia very remarkable (probably abnormal for the genus), the armature with simple pointed stipites, pilose apically, the cardo unusually long; sagittæ extending to or slightly beyond the apices of the stipites, dilated, with a prominent angle about the middle of their length. Seventh ventral segment emarginate apically in the middle, bilobate on each side, the apical lobes concavo-convex, large, the posterior narrow, elongate-ovate, and more membranous, neither lobes ciliate; apical process of the eighth very long, angulate at the top in the middle and with apical hairs.

Hab. Townsville, Queensland (*Dodd*).

Euprosopis, gen. nov.

This may be considered by some as a subgenus only of *Prosopis*, but, I think, when that genus is properly classified it will be found worthy of full generic rank. *Prosopis husela* may be taken as the type of the genus.

In the male the genital armature is rather short and robust, with short incurved apical portion of the stipites, the sagittæ extending well behind these. Eighth ventral segment with long, slender, median apical process; seventh with well-developed lateral wings, and giving off at the apex, on each side of the middle, two very long, curved, slender processes.

The general characters are as follows:—The propodeum seen from in front is extremely short and bounded behind by a raised line or ridge, and within this area it is strongly rugose in all the species known to me. Behind this it is smooth, or comparatively so, over the rest of the anterior area (=basal area, enclosed space of metathorax, &c., auct.), which penetrates and (comparatively) widely separates the lateral elements of the propodeum by a wedge-shaped prolongation, which reaches nearly to the insertion of the abdomen. Small details of neuration vary even in different specimens of a single species, but the first recurrent nervure either meets the first transverse cubitus or is received a very short way within the second cubital cell.

There are two very distinct groups in this genus, viz., that of *Prosopis husela*, which like *elegans* has the calcar of the hind tibiæ of the female armed conspicuously with outstanding teeth or lamellate spines. In the male of *husela*, at least, the apical curved processes of the seventh ventral segment are beautifully clothed with hairs. In the other group, one species of which I have identified as *Prosopis disjuncta*, these processes in the male are without the remarkable vestiture, and the calcaria of the female are without the spines. To the genus in its wide sense belong species of very different superficial appearance, such as *husela*, which greatly resembles a species of *Euryglossa* described by me, other red-bodied species, black species with yellow scutellum and postscutellum, and species (except for small yellow markings) altogether metallic. All agree essentially in the peculiar features of the male terminal segments and genitalia, and in the structure of the propodeum as described above.

Euprosopis husela, Cockerell.

Male genital armature rather robust, the apical prolongations of the stipites pilose, short and bent inwards, not nearly so long as the wide basal portion, and not at all membranous, the sagittæ extending beyond them. Eighth ventral segment with a long, slender, apical process, curved ventrally, with a few feeble hairs at the sides, and a few distinct ones on the narrow apical margin, the apex not

dilated nor in any way peculiar. Seventh segment with large lateral wings, ciliated at the sides, the apex of the segment in the middle giving off two very long, outwardly curved, subfiliform processes, beautifully hairy and slightly dilated at their apices.

Prof. Cockerell thinks that *E. husela, elegans,* and its var. *huseloides* may be all forms of one species, but *husela* is easily distinguished from *elegans* var. *huseloides* by the mesonotal puncturation. Both seem very constant except in neurational characters. The latter has a dense and almost rugose puncturation of the hinder part of the mesonotum in the middle, while in the former the punctures are much less close and leave considerable smooth spaces of surface between them.

I have seen very large numbers of *E. husela* from various localities, but comparatively few of *elegans* var. *huseloides* and all from Townsville. I have not seen the male of the latter, unless it be a form structurally the same as *P. rollei.*

Hylæoides, Smith.

The Prosopid bees of this genus have a facies entirely their own, resembling Australian Eumenid wasps of the genus *Alastor*. Apart from their coloration, this resemblance extends to the remarkable structure of the second ventral segment of the abdomen, which is abruptly and greatly raised above the basal one (when the insect is reversed) and highest in the middle in front, so as to have a tuberculate form. Important generic characters are the narrow stigma, the very long second cubital cell, and the strong curved spine at the apex of the front tibiæ above. The wings appear to be capable of longitudinal folding like those of Eumenidæ, at least they are partly folded in some examples that I have received.

I have examined the genitalia only in the common Queensland species (*H. concinna*), which has a wide orange band on the first segment, the third and following segments orange. Genital armature elongate, the cardo short, the apical prolongations of the stipites narrow, pilose, elongate, longer than the basal part and not at all membranous; sagittæ reaching fully to the apex of these, dilated from near the base; together they are almost spoon- or racquet-shaped. Process of the eighth ventral segment twice as long as its greatest width, almost parallel-sided, only a little prolonged beyond the median thickening, the apex emarginate and clothed with long hairs; seventh segment widely

and distinctly emarginate in the middle apically, with a pair of lateral wings on each side, the one wing overlying the other—one pair suboblong, with blunt, subtruncate, lateral margin, rather inconspicuously ciliate; the other much narrower, dilated at the apex, with the basal lateral angle acutely produced and the margin conspicuously ciliated with long hairs.

Other sexual characters are a curved strong carina on the third ventral segment, defining a large flattened shining plate, and a shining transverse ridge on the fourth.

Another point of resemblance between this *Hylæoides* and some of the Australian Eumenidæ is the deep black second segment, the dull colour being due in both cases to a very dense appressed black tomentum, quite similar in the bee and wasps.

Euryglossa, Smith.

This large and dominant Australian genus has been much studied by Prof. Cockerell, and he has formed new genera or subgenera for allied forms. Generally speaking, the Euryglossine section of the Prosopidæ are easily distinguished from *Prosopis* and its allies by the form of the tongue and by the mandibles, which have a more acute appearance in the females, owing to the apical tooth being well produced beyond the inner one. In *Euryglossa* itself, in some species the anteapical tooth is hardly, if at all, developed. A great many at least of the species of the Euryglossine section have the posterior tibiæ spinose or subspinose. *Euryglossa* itself in normal forms has much more of an Andrenoid facies than most Prosopidæ, and the females, in such species as I have been able to examine (as also those of the genera *Pachyprosopis, Turnerella, Euryglossina,* and probably others), have a small but distinct bare pygidial area. The calcaria of the hind tibiæ are notably spinose or serrate in such *Euryglossa, Pachyprosopis, Stilpnosoma,* and *Turnerella* as I have been able to examine; but they are also notably so in one group of species of *Meroglossa* and *Palæorhiza* in the Prosopine section and in some *Prosopis*, e. g. *P. elegans,* &c.

I have only examined the genitalia in one undetermined species of *Euryglossa*. The genital armature is long, very strongly rounded on the basal half, *i. e.* to the base of the sagittæ, which extend in dorsal view to the apices of the stipites. The latter are long and slender on their free portion, somewhat twisted, and with a roundish, more membranous, dilated apex turned outwards, a little like some species of *Andrena*. There are no long hairs or bristles,

but only very short and inconspicuous pubescence. The seventh ventral segment has the lateral wings ample, and they are strongly acutely produced at their apical angle, and bear and are ciliated with a peculiar short pubescence; at the apex of the segment in the middle between the wings arise, side by side, two small, hairy, elongate processes. The eighth segment is prolonged into a strong and very elongate chitinous process, widest at about the middle, with a dense and peculiar pubescence on its apical half.

Euryglossa variabilis, sp. n.

Very variable in colour, black, the abdominal pleura for a large part white: or (α) black, the fourth and fifth abdominal segments brightly ferruginous; or (β) black, the whole abdomen, except the extreme base, ferruginous; or (γ) black, the whole mesonotum and scutellum ferruginous, the abdomen black; or (δ) head black, mesonotum and scutellum ferruginous, abdomen, except extreme base and the fifth and sixth segments, ferruginous. Intermediate conditions also occur—*e. g.*, the apical margins of the second and third segments narrowly, the fourth very widely, and the whole of the fifth may be ferruginous. When the abdomen is black, this has a greenish lustre, but in the red-bodied specimens it disappears, and on the red parts in intermediates. The pleura remain largely white in all varieties. The legs also vary in the brightest forms, the tibiæ and tarsi being sometimes clear testaceous; in dark varieties they may be black or pitchy.

Mandibles more or less red, the face at the sides densely clothed with white hairs. Clypeus shining, densely and finely punctured at the sides, plentifully, but more coarsely and irregularly, in the middle; frons dull and very densely punctured. Mesonotum very smooth and shining in the middle, where it is strongly and remotely punctured, but very densely in front and at the sides in front of the tegulæ; scutellum shining, coarsely punctured in front, densely and more finely along the hind margin; postscutellum dull and very densely and roughly, finely punctate. Anterior area of propodeum smooth and shining, with microscopic surface-sculpture most noticeable in front and behind, rest of propodeum with white pubescence. Abdomen ovate, dull, with excessively dense microscopic surface-sculpture, not or hardly punctured; basal segment with short hairs basally, second, third, and fourth nearly bare or only with very short inconspicuous hairs, fifth with longer suberect hairs and an

apical fringe; pygidium elongate, narrow, its sides raised. Neuration ordinary, but varying in detail as in most Australian Prosopidæ, of which I have examined long series. Second recurrent nervure sometimes received far within the second cubital, as far as the first recurrent is from the other extremity, usually only slightly within this cell, sometimes interstitial with second transverse cubitus.

♂. Length 6–7 mm.

Hab. Bundaberg, Queensland.

Obs. Not having been able to compare it with the types of the many known species, I do not feel sure that this may not in some of its many varieties have been already described. It is very interesting from the definite character of its variations. My series was taken at random from hundreds of examples that were visiting the flowers of a small forest tree. There were no males present and the females were all engaged in brushing the pollen inwardly towards the mouth with the front legs in the usual Prosopid manner. A dozen specimens could be swept off at a single stroke of the net. There is no noteworthy variation, except in colour and details of neuration, the latter being similarly unstable in many other Australian Prosopidæ, so that the exact position of the recurrent nervures &c. is hardly worth referring to, unless one has examined a large series of examples. As to the colour-variation, I find similar cases in Australian *Prosopis*, those with a ferruginous abdomen having black-bodied forms also, in some of the species I have taken in numbers. Further, the abdomen may become conspicuously metallic (blue) in the dark varieties. For this reason these colour-differences are not to be taken into account for purposes of specific distinction, unless they are known to be constant.

E. variabilis must be very close to *E. myrtacearum*, if the latter is not identical with one of its colour-variations. However, in the former the first recurent is generally, if not always, received well within the second cubital cell.

Euryglossa euxantha, sp. n.

Head mostly yellow, but the occiput and a wide transverse band including the ocelli, which is produced downwards on each side along the eyes for about half the distance between the top of the eyes and the line of insertion of the antennæ, are black. The yellow line formed between the black occiput and the black vertical band is narrow and irregular in outline. Lateral sutures of the clypeus on the basal half with narrow

dark lines, terminating apically in a short transverse line on each side. The lateral dark clypeal lines connect above with a dark spot, in which the antennæ are inserted. Mandibles dark apically. Scape yellow, rest of antennæ testaceous. Mesonotum black bordered with yellow, very widely at the sides in front, but the hind margin is black; two large discal longitudinal yellow bands, narrowing posteriorly, where they are connected by a transverse band a little in front of the black hind-margin; anteriorly they are incompletely separated, so that it might be said that a great oblong yellow spot, enclosing an elongate black triangle, occupies the whole middle portion of the mesonotum, except at the hind margin. Most of the pronotum, one or more spots on the tegulæ, the tubercles, the mesopleura in front, a quadrate spot behind this, with a minute one below it, a large spot on the metapleura and a dot below it, yellow. Mesopleura, where not yellow, nearly black. Scutellum with the axillæ and postscutellum and nearly the whole of the propodeum, except the anterior area, yellow. Anterior area black, with three large yellow spots in a transverse row. Legs yellow, hind tibiæ and middle and hind tarsi more testaceous. Abdomen brown, the basal face of the first segment, and two great transverse wedge-shaped spots, almost forming a complete band, on the second, yellow.

Clypeus and plate above it shining and feebly irregularly punctured, the front of the head below the ocelli dull, with distinct fine but very shallow punctures more evenly distributed. Mesonotum dull, with fine, remote, and very shallow punctures. Anterior area of propodeum dull, with only microscopic surface-sculpture. Abdomen more shining than the thorax and with shallow puncturation on the more apical segments. Spur of hind tibiæ with regular lamellate spines decreasing in length towards apex, the basal ones very long. Neuration, except subcosta, mostly pallid yellowish, as also the stigma.

♀. Length 6 mm.

Hab. Port Darwin (*Dodd*).

Heterapis halictiformis, sp. n.

Male very slender and elongate, with clavate abdomen. Black, the whole face below the antennal fossæ and a broad orbital prolongation upwards, not reaching the top of the eyes, the mandibles, malar region, scape of the antennæ in front, the front coxæ, the hind margin of the pronotum and the tubercles, yellow. Flagellum of antennæ pale

ferruginous beneath, infuscated above. Tegulæ pale, yellowish, with a dark spot. Front legs clear, pale yellowish brown, middle ones more brightly yellow, the femora with a small dark mark behind, the tibiæ with a rather larger one. Hind femora black, tibiæ yellow on the basal portion; the rest of the tibiæ and tarsi having been broken off their colour is uncertain.

Head large, subquadrate on the vertex, sides of face evidently punctured, the face shining, strongly and evenly convex in profile, above the antennæ much duller and very densely punctate, vertex smooth and shining between the ocelli and externally to there. Antennæ long, the scape elongate, nearly parallel-sided, distinctly, but not strongly, arched beneath; second joint nearly globular; third very small, transverse; fourth elongate, twice or more than twice as long as the third; the following joints all elongate and becoming thicker towards the apex of the antennæ. Mesonotum shining, with distinct punctures, inclining to rugulosity; scutellum also shining, sparsely punctured; postscutellum very dull. Propodeum seen from above with excessively long dorsal face, as long as the scutellum and postscutellum together, very dull, with extremely dense and minute granular appearance, the brow and posterior face smooth and shining, the latter with a great and deep median fovea. Abdomen clavate, third segment twice as wide as the first, pitchy brown on the first two segments, beneath and towards the apex with very scanty, longish, erect, white hairs, which are quite conspicuous. The surface is shining, for the most part without definite sculpture, with feeble, shallow punctures on the more apical, piligerous segments.

♂. Length 3 mm.

Hab. Bundaberg, Queensland, in June.

Euryglossina, Cockerell.

Euryglossina cockerelli, sp. n.

Black, the apical part of the mandibles and labrum more or less reddish; clypeus and plate above it black; antennæ pale beneath, fuscous above, tubercles and a spot on the tegulæ bright yellow. Front femora black, the tips as well as the tibiæ and tarsi yellow. Middle and hind legs pale, but not of the bright colour of the front ones, the femora dark in front and behind, and the tibiæ infuscate above. Abdomen dark brown or pitchy with a purplish lustre, the pleura and ventral surface as well as the extreme apex

yellow. Neuration, except the subcostal, very pallid yellow, the stigma pale and hyaline except the brownish-yellow margin.

Examined under a strong lens the sculpture, &c., is as follows:—Clypeus shining and with evident, fine punctures. Head and mesonotum not quite dull, in spite of the dense surface-sculpture, puncturation not or hardly discernible, on the scutellum a very fine puncturation is observable; propodeum seen from in front more shining than the mesonotum; abdomen somewhat shining, without definite sculpture. First recurrent nervure received well before the second cubital cell, which is about as wide as its greatest height. Lower side of first cubital straight.

♀. Length 4 mm.

Hab. Bundaberg, Queensland, collected by myself.

Turnerella, Cockerell.

Turnerella doddi, sp. n.

Colour and appearance very like *Euryglossina cockerelli*, but the whole face below the antennæ is red, and this colour extends for some distance above the base of the mandibles behind the eyes. Scape of antennæ and flagellum beneath red or reddish. Abdomen of a pitchy or more or less sordid brown colour, darker apically, and with yellow tip, the basal concavity yellowish, the dark parts with purplish reflections. Tubercles, tegulæ, venter, and pleura of the abdomen, as well as all the legs, bright yellow. Neuration like the preceding, but the second cubital wanting.

Clypeus forming a very distinct obtuse angle with the plate above it; mandibles acute, the apical tooth being well produced beyond the inner one. Front of head with very fine remote punctures quite evident. Mesonotum very dull, the minute punctures indistinct, much more numerous and more distinct on the scutellum. Propodeum seen from in front smooth and shining. Abdomen without definite sculpture.

♀. Length 3·5 mm.

Hab. Port Darwin (*Dodd*).

Neopasiphae, gen. nov.

I propose this name for a male insect which has somewhat the appearance of *Euryglossa* with extraordinary sex characters.

Mandibles bidentate, the apical tooth much the longer and

rather sharp; labrum short, transverse, hardly seen beyond the clypeus in a front view of the head. Scape of antennæ flattened and enormously dilated. Hind femora and tibiæ greatly incrassated, the metatarsus greatly dilated, apex of middle tibiæ armed with a stout spine. Wings with first and second cubital cells nearly equal in length; stigma very narrow, lanceolate; lower side of first cubital cell straight, not the least curved; submedian cell a little longer than the median: first recurrent nervure slightly within the second cubital, second about one-fifth the length of the lower side of the cell from its extremity. Tongue not visible; maxillary palpi apparently six-jointed, ordinary. The apex of the eighth ventral segment and of the stipites of the genitalia, which happen to be exposed, are Andreniform in appearance.

Whether this is really allied to *Pasiphae* is, of course, doubtful, seeing that the unique example, without dissection, can only be very imperfectly examined. There are examples of two species under *Pasiphae* in the British Museum collection, all the individuals, I think, being male. One of these has the tongue protruded, and it is a very elongate organ, not in the least like that of *Euryglossa*.

Neopasiphae mirabilis, sp. n.

Black, the clypeus, mandibles, scape of antennæ, flagellum beneath, an apical band on all the abdominal segments, yellow. These bands with two emarginations in front. Front femora and tibiæ yellow, the former for the most part black above, the latter with a large black mark, tarsi yellow; hind femora and tibiæ for the most part black, but both are yellow at the apex and the latter have a pale line along the front margin.

Scape of antennæ greatly dilated, flattened, and subrotundate, the inner margin evenly rounded, the outer for the most part nearly straight. Head and thorax clothed with long pale hairs, the whole insect with the surface very dull. Thorax very densely sculptured with very fine puncturation, appearing more or less granulate. Anterior area of propodeum defined by a slightly impressed line and by the absence of pubescence. Abdomen excessively densely and finely sculptured, very dull, clothed with sparse longish pale hairs; the legs thinly clothed with long pale hairs. Hind femora and tibiæ greatly incrassated; the metatarsus subrotundate and much wider than the greatly incrassated tibia, its hind margin fringed with very long pale hairs.

♂. Length 10 mm.

It is not clear whether the appression of the pubescence of certain parts is natural or otherwise, the specimen appearing to be in a rather dirty condition.

The type is in the British Museum.

Hab. W. Australia, Violet Range (*E. Murchison*).

Nomadidæ.

Nomada.

This genus is only known in Australia from Queensland, where but a single species, here described, has so far been discovered. Considering the abundance of Andrenid bees of the genera *Halictus* and *Parasphecodes*, one might expect many species of *Nomada*, parasitic on these; but such is not the case, and it is probable that this genus is a comparatively recent arrival. It is a small and obscure species, and apparently not very common. Turner has taken it at Mackay and Cairns, and I have received the female from Dodd from the latter district.

Nomada australensis, sp. n.

♂. Head and thorax black or nearly so; mandibles, cheeks, labrum, clypeus, a narrow line along the inner orbits reaching the vertex, antennæ beneath, the scutellum and postscutellum pale yellowish brown. Antennæ mostly dark brown above. Pronotum posteriorly and mesonotum laterally rather obscurely bordered with red; mesopleura pale, yellowish brown. Legs brown, the front pair and the hind and middle tibiæ paler than the hind and middle femora, but the tibiæ are more or less infuscate behind. Abdomen dark or blackish brown, more or less paler at the articulations of the segments; second segment with a round pale yellow spot on each side, third with a much smaller one not visible in dorsal aspect, fourth and fifth with paired spots, sometimes concealed by contraction of the segments.

♀. Generally like the male, but the antennæ are paler above, the whole face reddish except the middle part above the antennæ. Mesonotum entirely reddish, except a dark median line; legs uniformly brownish yellow. Third and fourth abdominal segments with very dense lateral apical fringe of white appressed hairs. Wings in both sexes distinctly clouded round the margins, neuration dark.

Face densely clothed with white appressed hairs; mandibles acute. Third antennal joint very similar in each sex, elongate, much longer than the fourth, this and the following

joints being subequal. Mesonotum shining between the coarse punctures, which are rather sparser in the female than in the male, distinctly longitudinally impressed down the middle and more or less distinctly on each side of this. Anterior area of propodeum rugulose, beyond this with dense and conspicuous appressed white plumose pubescence; scutellum subprominent on each side. Abdomen with only very feeble punctures, the apical margins of the segments widely impunctate. Apex of hind tibiæ of the female with two very short but distinct blunt spines. Owing to the pale hairs the spines are difficult to see in the male, but I detected two in one of the examples.

♀. Length 6 mm.

The type is in the British Museum.

A variety from Mackay has the clypeus largely black in the middle and the orbital lines very widely broken.

Hab. Cairns (*Turner, Dodd*); Mackay (*Turner*).

Ceratinidæ.

Neoceratina, gen. nov.

General form and appearance of a smallish *Ceratina*, similar mandibular characters, but the maxillary palpi with only five joints, the first two by far the longest, the second about twice as long as the third, which is subequal to the fourth, the fifth being slender and acuminate. The first joint is of peculiar form, much more solid than the second, and thickened on its basal portion, in length not differing much from the latter. Wings with the second transverse cubitus strongly curved, nearly meeting the first transverse on the radius, the recurrent nervures received a short and about equal distance within the second and third cubital cells respectively.

Shuckard gives the generic characters of the well-known European *Ceratina cyanea* at some length; the maxillary palpi as "6-jointed, the three first joints subequal, the three terminal gradually decreasing in length." This agrees in general with a North American species which I dissected for comparison. This has three long basal joints, not differing much in length, but the fourth is very short, the fifth rather longer, the sixth slender and acuminate. The Australian insect is therefore very different from these.

Neoceratina australensis, sp. n.

Female black, with slight æneous tinge; abdomen with

the basal segments more or less pitchy and the apical margins pitchy red. A wide stripe down the middle of the clypeus, the prothoracic tubercles, a spot at the base of the middle tibiæ above and a line on the front and hind ones, white. The legs pitchy brown. Wings hyaline, somewhat smoky; neuration dark.

Face below the antennæ polished, and at the sides with sparse coarse punctures, impressed along the margins of the clypeus, the latter impunctate down the middle; a dense puncturation on the inner side of the great impressions, in which the antennæ are inserted, these being elsewhere smooth. Head seen from above with a flattened punctate area, on which the front ocellus is placed, the vertex with coarse punctures. Mesonotum finely and densely punctured and dullish, but with two highly polished areas posterolaterally, whereon there are few punctures, and in fact on part of these areas none, but they are traversed by an impressed line. Scutellum densely punctured all over. Propodeum in front dull, with dense minute surface-sculpture, appearing granulate. Basal abdominal segment finely and somewhat irregularly punctured; second and third very densely and finely punctured, but with a smooth transverse submedian impunctate line, which is interrupted in the middle by a punctured portion; fourth, fifth, and sixth with extremely dense and fine puncturation and remote minute tubercles. Abdomen above with very short sparse hairs, beneath with much longer pale ones; sculpture of ventral segments very dense and rough; scopa pale.

♀. Length 4·5 mm.

Hab. Bundaberg, Queensland; taken by myself in 1904.

Obs. This is so far the only representative of the family Ceratinidæ in Australia.

Eumenidæ.

Ischnocœlia, Perkins.

This genus is entirely distinct from *Elimus*, Saussure, which it superficially resembles, by the quite different mouth-parts. There are several species of each of these genera in the British Museum collection.

Ectopioglossa, gen. nov.

General form and appearance of a yellow-and-black *Eumenes*. Antennæ of male 13-jointed, the twelfth very small, forming a base for the recurved hook-like thirteenth

joint. Clypeus bidentately emarginate in both sexes. Middle tibiæ with a single calcar. Second cubital cell triangular, the sides meeting above (or almost meeting) at the radius, receiving the first recurrent nervure far along its lower side at one-third or more of its length from the first transverse cubitus, second recurrent received at not half so great a distance from the second transverse cubitus. Abdominal petiole gradually widening from base to apex, about as long as the thorax. Labium with a very elongate linear ligula, which is hairy for nearly its whole length, and bifid at the apex. Labial palpi long, the basal joint incrassate, thickening apically, but many times as long as its greatest width, set on one side with bristly hairs; second long and slender, but much shorter than the first, thickened at the apex, and there set with two long curved bristles; third slender and elongate, but much shorter than the second, and also armed with two curved apical bristles; fourth spine-like, not more than one-third the length of the third and much shorter than one of the curved apical bristles of the latter. The palpi of the male are very similar, but they are more slender and the bristles less developed. Maxillary palpi very short, three-jointed, the whole not longer than the third joint alone of the labial palpi; basal joint elongate but stout and clavate, second very small, but stoutish, third a mere rudiment and very minute. Inner edge of mandibles (♀) with three smaller apical teeth, followed by a very wide one with concave free edges and as wide as the other three together.

Ectopioglossa australensis, sp. n.

Black, clypeus, a large spot above it, pointed above and nearly reaching the ocellus, the inner orbits from the clypeus to the top of the sinus of the eye, the posterior orbits, sometimes a dot adjoining each of the exterior ocelli, a band on the pronotum dilated at the sides and slightly interrupted in the middle, a large spot on the mesopleura, two curvate lines on the anterior part of the mesonotum in the female, two spots on the tegulæ and one adjoining these, two large spots on the scutellum, sometimes united, two great spots on the propodeum, which are deeply emarginate exteriorly, an apical, slightly interrupted, band on the basal abdominal segment, two spots at the base of the second as well as a complete apical band on this and the two following segments, the whole (or nearly) of the front tibiæ and a large part of the femora, a spot at the apex of the middle femora and the tibiæ above, pale yellow. Head with very sparse larger

punctures and the interstices distinctly punctulate. Mesonotum shining (more so in the male), with very sparse and feebly impressed punctures of larger size and a finer puncturation, which is also indefinite or very feeble, clothed like the head with short, erect, black hair. Propodeum smooth and shallowly punctured, widely channelled and rugose down the middle, its posterior lateral angles dentate or spinose. Abdomen clothed with excessively short hairs, the apical margin of the petiole raised or reflexed. Wings shining fuscous, brassy in some lights.

♂ ♀. Length to apex of second abdominal segment 9–14 mm.

Hab. Cairns, Queensland.

Abispa, Mitch.

The antennæ in the male of this genus are remarkable for being only 11-jointed and quite simple. The Australian *Alastor* likewise has eleven joints in the male, but only eight of these are apparent, the three terminal ones being extremely minute and more or less sunk in a cavity of the eighth joint. Sometimes they are so small as to appear as a mere tubercle, even under a very strong lens. The eight apparent joints are, most of them, unusually lengthened, giving the antennæ a characteristic appearance.

Abispa odyneroides, sp. n.

General colour the same as that of *Odynerus abispoides*, described below, but the mandibles are darker, reddish, the yellow in the sinus of the eye does not continue down to fill up the space between the clypeus and supraclypeal plate, but is continued upwards nearly to the top of the eyes, the pronotum is entirely black.

Clypeus very deeply and widely dentately emarginate. Antennæ (♂) 11-jointed, the third subequal to the fourth and fifth together. Head in front with dense reddish hair. Mesonotum dull, very rugosely punctured, clothed with very short, erect, dark hairs, those on the scutellum pale; postscutellum tridentate, the lateral spines short, blunt and obscure, the median one erect and sharpish; propodeum rugose from the very dense puncturation, the hind angles hardly prominent, in some aspects subrectangular. Basal abdominal segment shallowly, but distinctly and rather evenly punctured, the whole surface of the abdomen very dull from the sericeous dark tomentose clothing. Transverse sulcature of second ventral segment deep, the costæ

few and feeble; third and following segments very densely clothed with orange-coloured woolly hair; second basally with black erect pubescence. Wings on the costal portion orange, elsewhere less deeply coloured, some violet iridescence apically.

♂. Length to apex of second segment 24 mm.

The resemblance between this species and the next is quite remarkable and is not merely one of colour, but the general form of the clypeus, mandibles, and propodeum is also concerned. Of course there is really no affinity, the genera being entirely distinct.

Hab. New Guinea (*Pratt*).

Odynerus abispoides, sp. n.

Black, the mandibles excepting the teeth, clypeus, supraclypeal plate, the sinus of the eyes and a line between this and the clypeus, the posterior orbits, two large spots on the pronotum, the hind angles of the propodeum, the antennæ, tibiæ, and tarsi, and an apical band on all the abdominal segments (that on the first segment paler) orange.

Mandibles long and slender, projecting, when crossed, by more than half their length beyond the apical angles of the clypeus, the latter widely and deeply dentately emarginate, feebly punctured. Apical joint of male antennæ strongly curved, long, much longer than the twelfth, which is itself elongate and much smaller than the preceding. Head in front coarsely rugosely punctured, the vertex subincrassate. Pronotum coarsely and closely punctured, mesonotum very small, much less closely and coarsely, the surface covered with dull black dense tomentum concealing the surface. Scutellum coarsely punctured, the punctures distinct. Propodeum rugose, with very close punctures, finer than those on the scutellum, the hind angles produced into a prominent spine. Abdomen deep dull black from the tomentose covering, which in some aspects almost hides the shallow puncturation, the basal segment foveate near the apex in the middle. Second ventral segment with short costæ, behind these it is widely flattened and has a shortish median impressed line. Wings orange on the costal portion, the nervures rather darker.

♂. Length to apex of second abdominal segment 14 mm.

Belongs to the *Leionotus* section, as generally accepted.

Hab. New Guinea (*Pratt*).